"EXAFS and thermodynamic studies of uranyl complexes of HEDPA in neutral and alkaline solutions"

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HEDPA (1-hydroxyethane-1,1-diphosphonic acid) and other diphosphonic acids are remarkably powerful chelating agents in moderately acidic solutions and have found applications in separations and waste treatments. Their coordination chemistry with lanthanides and actinides have been studied, but mostly in acidic solutions. There are structural data on the complexes of HEDPA with lanthanide elements, but not the complex with uranyl(VI). This study is focused on the coordination of HEDPA with uranyl(VI). Efforts are made to evaluate the complexes in neutral to basic solutions using EXAFS and stability constant data.

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